Glossary of terms for navigating the Climate Data Portal (2025, v1.0)

This document provides definitions of terms used in the Climate Data Portal (the Portal) interface, such as filtering options and metadata.

Filtering your data

On the Portal home page, see the filtering options to refine your selection.

Filter	Definition
Data Type	The Climate Data Portal offers two types of data for download: **Dataset** – a specific set of data for one of the ten NARCliM2.0 individual models or ensemble members. An example is daily simulations for a variable over South-east Australia, and for one greenhouse gas emission scenario. A dataset is typically for a specific GCM and RCM. **Collection** – a group of datasets for all 10 NARCliM2.0 ensemble members. An example is all 10 NARCliM2.0 ensemble members for a variable at a daily frequency over South-east Australia and for one greenhouse gas emission scenario. Collections are designed to reduce search, selection and downloading.
Categories	A group of collections for like variables, frequencies and/or spatial domain. Used for integration with the SEED platform. For more information on the SEED platform please visit https://datasets.seed.nsw.gov.au/dataset/narclim-climate-projections
Project	The climate modelling project associated with available datasets or collections. For example: **NARCliM2.0 (2024)** – CMIP6-based regional climate modelling simulations providing data for the years 1951-2100
Product	Product groups are outputs distinguished by the method by which they are generated. NARCliM products are grouped by:

	Postprocessed outputs – simulation outputs that have been rigorously reviewed to remove data gaps and inconsistencies and improve data quality. This includes direct model output such as temperature, precipitation and wind speed, which have not been bias adjusted. **Bias-adjusted outputs** – simulation outputs that have been systematically compared to historical real-world observations. Model outputs have been adjusted based on observational gridded output over a distinct period, with the corrections applied to all simulated years in the scenario. Only precipitation, minimum daily temperature and maximum daily temperature variables are currently available as bias-adjusted output, using the adjustment period 1990-2009. **Climate indices** – indices derived from NARCliM simulations. Examples include counts of the number of days a temperature threshold is met, i.e. the number of days where the minimum temperature is less than 2 degrees Celsius. **Multi-model summaries** – an averaging of all 10 RCM simulations over a 20-year period for an individual SSP. For example, 'daily near-surface temperature' over 2040-2069 for SSP1-2.6.
Variables	Variable names here are the common English names. Many of these correspond to the CORDEX variable long name. For example, 'near-surface air temperature' is the variable name for the abbreviation 'tas'. For more information about variables, see the NARCliM2.0 list of variables on SEED or the Variables dictionary [PDF 2.4MB]
Experiment/Scenario	An experiment or climate change/emissions scenario that the dataset is modelled to represent. These include: **SSP1-2.6** – Shared Socio-Economic Pathway 1 with representative concentration pathway 2.6 (Sustainability), low greenhouse gas emissions, 2015-2100 **SSP2-4.5** – Shared Socio-Economic Pathway 2 with representative concentration pathway 4.5 (Middle of the Road), medium greenhouse gas emissions, 2015-2100 **SSP3-7.0** – Shared Socio-Economic Pathway 3 with representative concentration pathway 7.0 (Regional Rivalry), high greenhouse gas emissions, 2015-2100 **Historical** – modelled (not observational) baseline, 1951-2014

	For more information on SSPs, see the NESP2 Climate Systems Hub explainer 'Understanding SSPs'
Frequency	Frequency or time step is the interval of time at which the variable is calculated. The dataset may have been recorded or resampled at the stated frequency. Examples are **daily, monthly, yearly** or **static**.
Spatial Domain	The geographic extent covered by the simulations. The two domains of NARCliM are: **CORDEX Australasia @20km** (20km resolution, AUS-20i) https://cordex.org/domains/region-9-australasia/ **South-East Australia @4km** (4km resolution, NARCliMi)
GCM	Global climate model (GCM). NARCliM2.0 is generated using five (5) GCMs. For more information on NARCliM2.0 CMIP6 GCM selection, see Di Virgilio et al. (2025) https://doi.org/10.1029/2021EF002625..
RCM	The Regional Climate Model (RCM) that has dynamically downscaled the 5 GCMs. NARCliM2.0 uses two (2) RCM configurations from Weather Research and Forecasting (WRF) v4.12 model to generate 10 dynamically downscaled ensemble models. Note that the names "R3" and "R5" refer to the RCM configuration, not "Revision". For more information on NARCliM2.0 design, see Di Virgilio et al. (2025) https://gmd.copernicus.org/articles/18/671/2025/gmd-18-671-2025.html.

Understanding dataset metadata

You can view the metadata with each dataset. Below are definitions of additional common metadata. NARCliM2.0 data follows CORDEX-CMIP6 archive specifications https://doi.org/10.5281/zenodo.10961068.

For more information about NARCliM2.0 GCM selection, please see Di Virgilio et al. (2025) https://doi.org/10.1029/2021EF002625.

For more information about the NARCliM2.0 design, please see Di Virgilio et al. (2025) https://doi.org/10.5194/gmd-18-671-2025.

For more information about CORDEX (Coordinated Regional Climate Downscaling Experiment), please visit https://cordex.org/.

Field	Definition	Example value
CMIP Generation	Version or generation of the Coupled Model Intercomparison Project (CMIP) used for the dataset. CMIP6 is the latest generation.	CMIP6
Variable	CORDEX variable long name	Near-Surface Air Temperature
Acronym	CORDEX output variable_id	tas, pr (for near-surface air temperature and precipitation respectively)
Units	Unit of measure of the variable	K (Kelvin)
Scenario	Scenario or Experiment	SSP1-2.6, SSP2-4.5, SSP3-7.0, Historical
Date Start	Date of the first data point in the dataset	1 January 1951
Date end	Date of the last data point in the dataset	31 December 2100
Driving Model	Global Climate Model (GCM) of the dataset that is dynamically downscaled by the regional climate model (RCM)	EC-Earth3-Veg
GCM realization	A single run of a global climate model (GCM), representing a specific set of initial conditions and input values. Some GCMs can have multiple realisations, though commonly, one realisation only is dynamically downscaled by a regional climate model.	r1i1p1f1

Downscaling Model	Regional Climate Model WRF configuration of the dataset	NARCliM2-0-WRF412R3 (WRFv4.12 NARCliM Configuration R3) NARCliM2-0-WRF412R5 (WRFv4.12 NARCliM Configuration R5)
Long Wave Radiation Scheme	LW radiation physics scheme used in the downscaling model	M. J. Iacono et al 2008 doi:10.1029/2008JD009944
Short Wave Radiation Scheme	SW radiation physics scheme used in the downscaling model	M. J. Iacono et al 2008 doi:10.1029/2008JD009944
Atmospheric Surface Layer Scheme	Atmospheric surface layer scheme used in the downscaling model	P.A. Jimenez et al 2012 doi:10.1175/MWR-D-11-00056.1
Land Surface Scheme	Land surface scheme used in the downscaling model	G.-Y. Niu et al 2011 doi:10.1029/2010JD015139
Microphysics Scheme	Microphysics scheme used in the downscaling model	G. Thompson et al 2008 doi:10.1175/2008MWR2387.1
Planetary Boundary Layer Scheme	Planetary boundary layer scheme used in the downscaling model	M. Nakanishi et al 2006 doi:10.1007/s10546-005-9030-8
Cumulus Scheme	Corresponds to cu_physics option in WRF. It is the turbulence model used in the downscaling model	Z. Janjic 1994 doi:10.1175/1520-0493(1994)122<0927:TSMECM>2.0.CO;2
Frequency	Frequency or time step that each variable has been generated at, representing the time between each data point recorded.	Daily, Monthly, Year, Static
Domain	Geographic extent covered by each climate simulation	CORDEX Australasia @20km South-East Australia @4km
Resolution	Grid cell resolution or size	4km or 20km

Output grid	Grid type of the output dataset and datum	Regular (WGS84)
Collection	Name of the collection the dataset belongs to	NARCliM2.0 (2024) Historical (CMIP6) monthly surface upward latent heat flux in South-east Australia @ 4km domain